

1-35 FOUNDATION DATA

Overview

Receiving accurate foundation data as early as possible in the development of a project is one of the keys to developing the complete scope of the work required and to keeping a project on schedule. Obtaining the necessary foundation data in a timely manner is the result of good communication between the Office of Structure Design (OSD) and the Office of Structure Foundations (OSF) throughout the life of the project. This memo defines the role of the project engineer/designer in establishing and maintaining that communication and identifies who is responsible for what and when contacts need to be made by whom during the various phases of PS&E development.

It is important to both the OSD and the OSF that the scope of work required by each is identified as early as possible. What foundation data is needed, how much work is required to obtain it, and when during the design process the designer needs that foundation data is important to the OSF-Structure Foundations Branch (SFB). It is also important for the project engineer/designer to know what design data needs to be provided to the SFB and by when so that the SFB can deliver the foundation data when needed. Close communication throughout the PS&E development is essential.

Requests For Foundation Data

Requests for foundation data should be sent from Senior level to Senior level. Send requests to:

(NAME), Chief
Project and Resource Coordination Section
Structure Foundations Branch, MS-5

A copy of the request should be sent to:

(NAME), Chief
Structure Foundations Branch

Memo converted to metric format.

Supersedes Memo to Designers 1-35 dated August 1996.

Basic Project Milestones

The list below indicates the project milestones when there should be some type of communication between the OSD and the SFB. Following this list are the specific contacts and description of what data needs to be exchanged and by whom. It should be noted that the contacts outlined here are to be considered as a guide and should not preclude any communication necessary on a specific project to maintain the scope, cost, and schedule originally established. The basic project milestones are:

- Advance Planning Study Stage
- Receipt of Site Data
- General Plan Distribution
- Prior To Drilling
- After Drilling
- Receipt of Final Foundation Report
- Completion of Structure P&Q
- Construction

Advance Planning Study Stage

Design Requests Preliminary Geology Recommendations (PGR) to Develop Planning Study

Required from Design:

- Scope & possible structure type
- Number of foundation locations
- Types of foundations being considered (if known)
- Potential for scour (if known)
- (As-Built requested by SFB if needed)

PGR Information to be received from SFB:

(Two week turn-around)

- Peak Rock Acceleration
- Depth to bedrock
- Potential for liquefaction
- Soil type (where possible)
- Appropriate foundations for site
- Possible constructability issues
- Estimate of resources required

Receipt of Site Data

Design Requests Preliminary Foundation Recommendations (PFR) to Develop General Plan

Required from Design:

- Preliminary layout of structure (APS, if available)
- Copy of previous PGR (if available)
- Approximate design loads (if known)
- Types of foundations being considered
- Project schedule
- General Plan distribution target date
- When will final design loads be available
- When are Final Recommendations needed
- Presence of Retaining Walls on Project (if known)
- Name and phone number of Project Engineer

PFR Information to be received from SFB:

(Two week turn-around)

- Peak Rock Acceleration
- Depth to Bedrock
- Soil Type (where possible)
- Comments on foundations being considered & constructability
- Comments on presence of groundwater & potential for liquefaction
- Possibility for corrosion or hazardous waste to be a problem
- Estimate of field work required
- Estimate of when drilling might be done
- Desire/need to attend type selection meeting

General Plan Distribution

Design Requests Final Foundation Recommendations

Required from Project Engineer:

- Site Plan (show support locations)

- General Plan

- Utility Plan (if not shown on Site Plan; send what you have)

- Foundation Plan showing support locations

- Approximate design loads at each support (if known)

- Types of foundations being considered and why certain types cannot be used

- Foundation data required (PY, ARS, T-Z curves, liquefaction, etc.)

- Project Schedule: When final design loads will be available & when final recommendations are needed

Received From SFB:

(Two Week Turn-Around)

- Acknowledgment of Receipt of Request

- Name and Phone Number of Geologist Assigned

- Comments on Data Requested

- Comments on Potential for Special Testing or Studies to be Required

Prior to Drilling

One Month Before Drilling:

- SFB should contact OSD to verify project status (phone call)

5 to 10 Days Before Drilling:

- SFB should contact OSD to notify Project Engineer/Designer of the drilling schedule and to verify the final design loads and the project schedule.

After Drilling

5 to 10 Days After Drilling:

- SFB should contact OSD to verify foundation design assumptions (phone call)

Receipt of Final Foundation Report

Received from SFB:
Foundation Report
Log of Test Borings

Required From Project Engineer:
Acknowledgment
Contact Geologist for clarifications where needed

Completion of Structure P&Q

Design Requests Foundation Review Meeting
(Meeting date should be close to or immediately after Structure PS&E)

All requests for Foundation Reviews should be to (phone call or email):

(NAME), Chief
Project and Resource Coordination Section
Structure Foundations Branch

Required from Project Engineer at Review Meeting:
Structure Plans and Special Provisions
As-Built Plans (if existing structure)
Foundation Report
Specification Engineer (invite to Review Meeting)

Received from SFB (At the Review Meeting):
Verification of foundation design
Verification that foundation testing requirements are covered

Construction

Required From the Office of Structure Construction (OSC):

Include Project Engineer and Geologist in foundation issues

Required From Design:

Include Geologist in addressing foundation issues

Required From OSF:

Send recommendations on foundation construction issues to Design
(Design concurrence is required)

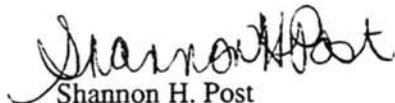
Where necessary there should be a Caltrans "Pre-Construction" meeting with the Structure Representative, the Designer, and the Geologist. Such a meeting would normally be set up by the Structure Representative but could be encouraged by either the Designer or the Geologist.

Communication

Although the milestones establish specific times in the process when there needs to be communication between the Project Engineer and the Geologist, it is important that close communication is maintained throughout PS&E development. Consistent communication is the key to successful and efficient PS&E delivery.

A handwritten signature in black ink, appearing to read "Richard D. Land".

Richard D. Land
Bridge Design Branch A Chief

A handwritten signature in black ink, appearing to read "Shannon H. Post".

Shannon H. Post
Bridge Design Branch B Chief

A handwritten signature in black ink, appearing to read "Michael A. Barbour".

Michael A. Barbour
Bridge Design Branch C Chief

RDL:jlw